MAC – RCI EDUCATION SEMINAR

PRINCIPLES OF DESIGNING WATERPROOFING SYSTEMS

PRESENTED BY: MID-AMERICA CHAPTER OF RCI (MAC-RCI)

April 5, 2012

7:30AM – 4:30PM

ROOFERS & WATERPROOFERS LOCAL 20 APPRENTICESHIP TRAINING FACILITY

5100 E. 59TH STREET

KANSAS CITY, MO 64130

6 RCI LU – 6 AIA LU/HSW HOURS

EDUCATION SEMINAR SUMMARY

A joint full-day of continuing education with the Mid-America Chapter RCI. The topics will cover above ground moisture management and below ground waterproofing. The faculty for the presentations will be Justin Henshell, FAIA, FASTM, RA, CSI, Paul Buccellato, FASTM, RA, CSI, both Principals of Henshell & Buccellato, Red Bank, NJ, & Thomas Gernetzke, RRC, RWC, REBC, RRO, Sr. Consultant of Facility Engineering, Inc., Madison, WI.

Following the classroom portion will be a hands-on presentation by Ryan Shultz, CSI on two-component PMMA, (Polymethyl Methacrylate), Fluid-Applied Waterproofing Systems for the Building Envelope. This will include product and system narratives, demonstrations and hands-on components for those who want to experience installing a portion of a waterproofing system.
ABOUT THE SPEAKERS

JUSTIN HENSHELL, FAIA, FASTM, CSI

Principal of Henshell & Buccellato Consulting Architects

Justin Henshell is the author of The Manual of Below-Grade Waterproofing Systems and is considered the industry standard for this construction subject. He has been practicing architecture since 1952 and has specialized in moisture-related problems in the building envelope nationwide since 1974. He is currently registered in six states. Some of his numerous high-profile projects include: Seattle Art Museum; Wharton School of Business at the University of Philadelphia; Smith Barney Headquarters, New York City; Museum of Modern Art in New York, Terminal C at the Dubai International Airport and IBM Headquarters in Armonk, NY.

Mr. Henshell has chaired the American Society for Testing and Materials, (ASTM), sub-committee on Roofing Membrane Systems and serves on the sub-committee on Waterproofing and Dampproofing Systems where he was the principal author for the ASTM Guide for Standard Details for Adhered Sheet Waterproofing. He has received the distinguished honor of Fellowship in both AIA and ASTM.

Justin Henshell was the 2000 recipient of the Walter C. Voss Award by ASTM. He has received the award for distinguished contributions to knowledge in the field of architecture and building technology, particularly the performance of roofing and waterproofing systems, through more than 38 years of outstanding leadership and dedicated service to the industry.

As a consulting architect in the field of moisture-related issues in the building envelope, he prepares and oversees the preparation of construction documents for roofing and waterproofing and masonry systems. He also serves as a consultant on these systems to more than 75 architectural firms throughout the country.

He is a member of AIA, ASTM and CSI. His home chapter is the Metropolitan New York Chapter of CSI of which he has been a member for 56 years. RCI recently honored Mr. Henshell in March 2008 at its International Convention and Trade Show with the first William C. Correll Award in recognition of significant contributions to the advancement of professional development within the industry.

FIRM OVERVIEW

Henshell & Buccellato Consulting Architects
Shrewsbury, New Jersey

Henshell & Buccellato Consulting Architects area of expertise is concentrated on moisture-related issues in masonry, roofing and waterproofing. Services include investigations, analysis, consulting on document preparation and peer review of architects’ and engineers’ drawings and specifications, expert testimony and the preparation of documents for remedial work.

These consulting services have been provided to architects, engineers, contractors, attorneys, manufacturers, governmental bodies, building owners and managers on over 1,000 buildings throughout the world.

THOMAS M GERNETZKE, RRC, RWC, REWC, RBEC

Project Manager for Facility Engineering, Inc.

Tom Gernetzke is a project manager for Facility Engineering, Inc. FEI provides professional building envelope services, including the analysis and design of roofing, waterproofing, fenestration, and masonry/cladding systems. He specializes in roofing and waterproofing systems and has successfully performed assessment, analysis, design, and construction administration for rehabilitation of roofing systems, split-slab and plaza-deck assemblies, green roofing systems, below-grade structures, and parking structures. He routinely performs hygrothermal analysis and has led multiple façade rehabilitation and over-cladding projects. He is currently serving as RCI Second Vice-President and is one of the first to be awarded the Registered Building Envelope Consultant designation.

FIRM OVERVIEW

Facility Engineering, Inc.
Madison, Wisconsin.

FEI provides professional building envelope services including the analysis and design of waterproofing, roofing, and masonry/cladding systems, peer review, construction administration, expert witness, historic preservation, and building envelope asset management services.
ABOUT THE SPEAKERS

PAUL BUCCELLATO, FASTM, AIA, RWC, CSI

Principal of Henshell & Buccellato Consulting Architects

Paul Buccellato is a principal in the firm of Henshell & Buccellato Consulting Architects that has specialized in moisture-related issues in the building envelope since 1974 including roofing, masonry walls, waterproofing and condensation.

Mr. Buccellato attended Pratt Institute and is a registered architect in 4 States and Board Certified by the National Council of Architectural Registration Board. He is a member of the American Institute of Architects, RCI, Incorporated and Fellow of the ASTM. He is a member of Committee D08 Roofing & Waterproofing where he serves as Chairman of Subcommittee D08.20 Roofing Membrane Systems. He is also a member of C15 Masonry Units. He is the Mayor of Matawan, NJ.

Mr. Buccellato is a past faculty member and Chairman of the Board of Regents of the Roofing Industry Educational Institute. He served as a member of the National Roofing Contractor Association’s Education Technical Committee and chairman of the their Roofing 301 Course Curriculum subcommittee. He is member of RCI, Inc’s. Waterproofing Examination Committee and chairperson of their Exterior Wall Examination Committee.

He can be reached at paul.buccellato@verizon.net

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Shrewsbury, New Jersey

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RYAN SCHULTZ, CSI

National Liquids & Waterproofing Manager - Soprema Corp.

Ryan Schultz is the Soprema, Inc. Regional Liquids and Waterproofing Product Manager. Ryan has seven years of Division 07 experience which includes selling, installing, observing and inspecting roofing and waterproofing. Mr. Schultz has represented this manufacturer for three years as a direct employee and as part of an independent rep firm based in Chicago, IL. His experience as a partial owner of an independent sales rep firm specializing in Division 7 products has given him the insight to many of the issues that consultants, architects, contractors and owners face when considering and building a structure that requires waterproofing.

Over the past four years he has begun to introduce Soprema’s liquids line into the Midwest market. He worked on Soprema’s first PMMA job outside of the New York City market as well as a wide range of fluid applied balcony and roofing applications including SBS modified bitumen garden roof projects. Soprema encourages Ryan to conduct trainings and seminars to further industry knowledge of liquid-applied waterproofing. He works closely with Architects, Consultants, Engineers, Contractors and Distributors in various regions. Ryan also conducts specification and detail review and is a member of RCI and CSI.

Today, Mr. Schultz will be presenting catalyzed polymethyl methacrylate (PMMA) Liquid-Applied Waterproofing within 07 14 16 Cold Fluid-Applied Waterproofing. PMMA is two or more liquid-applied layers which are comprised of a primer and a monolithic waterproofing/wearing layer. Ryan will also be demonstrating installation of a primer and at least two waterproofing/wearing layers. Mock-ups in various stages will also be available for viewing throughout the day.

FIRM OVERVIEW

Soprema, Inc.
Wadsworth, Ohio

Soprema, Inc. has been a world-wide leading manufacturer in the commercial roofing & waterproofing industry since 1908. Soprema manufactures below-grade waterproofing solutions, liquid waterproofing, air & vapor barrier systems, and more.
SEMINAR TOPICS

INTRODUCTION TO BELOW-GRADE WATERPROOFING

ABSTRACT
This is an introduction to below-grade waterproofing over occupied spaces. Waterproofing and moisture control approaches for various construction types such as plazas, terraces, parking garage roof decks, concrete foundations and concrete slabs. The attendee will be introduced to positive, negative and integral waterproofing along with various drainage considerations to permit water flow from the protected space.

LEARNING OBJECTIVES:
- What is waterproofing?
- What is hydrostatic pressure and how does it act on the building envelope?
- Why waterproof and what do the codes require?
- What are the various types of waterproofing installations?
- What are the types of waterproofing materials and applications?
- What type of surface preparation is required for proper installations?

DESIGNING PLAZA WATERPROOFING SYSTEMS

ABSTRACT
The design of plazas over occupied spaces must create a system that waterproofs and insulates the structural building deck while supporting pedestrian, vehicle traffic or both, including landscaping elements. Their design includes multiple component layers including a waterproofing membrane, protection layer, drainage course, insulation, and a wearing surface.

LEARNING OBJECTIVES:
- Define accessible and inaccessible waterproofing membrane.
- Understand advantages and disadvantages of the four waterproofing membrane types.
- Understand all aspects of the importance of waterproofing protection.
- Define the minimum flashing height and movement joint locations to absorb stresses.

SPECIFYING & DETAILING BELOW-GRADE AND PLAZA WATERPROOFING

ABSTRACT
This education module describes below-grade waterproofing and dampproofing focusing on specifications. Waterproofing is designed to resist hydrostatic pressure while dampproofing is designed to resist vapor pressure. The complete list of below-grade and plaza waterproofing systems are listed within CSI MasterFormat 2004 Division 07 six digit section numbers along with related Divisions will be discussed.

LEARNING OBJECTIVES:
- Understand the value of submittals, shop drawings, surface dryness and other tests.
- Describe the surface preparation needed for adhered waterproofing installations?
- How should waterproofing and dampproofing be detailed on architectural drawings?
- Know how job sequencing and earth retaining systems can affect waterproofing details.

CASE STUDY: CUNA MUTUAL GROUP WATERPROOFING REHABILITATION

ABSTRACT
The CUNA Mutual Group Waterproofing Rehabilitation began in 2004 and was completed in 2006. The project involved waterproofing rehabilitation of four below-grade parking structures containing approximately 2200 parking stalls and approximately 200,000 SF of horizontal surface. The presentation is picture-intensive and will focus on conditions encountered during the project.

LEARNING OBJECTIVES:
- Understand waterproofing assessment, analysis, and design.
- Learn the differences of surface problems and the need for structural plaza deck repairs.
- Become introduced to structural concrete repair.
- View parking deck membrane failure and replacement.

PMMA: COLD FLUID-APPLIED SYSTEMS FOR THE BUILDING ENVELOPE

ABSTRACT
This program discusses two-component PMMA, (Polymethyl methacrylate), which is a catalyzed fluid-applied resin waterproofing consisting of two or more layers that can be installed on both above and below grade projects. Since this module is comprised of demonstration & hands-on, it will show us PMMA as installed with set-ups for primer, membrane (with and without reinforcement), & options of wearing surfacing and/or pigmented or clear finish layer.

LEARNING OBJECTIVES:
- Understand the history of fluid/liquid-applied systems market.
- Understand the range of applications on roofing, waterproofing, balconies and parking decks.
- Learn the application guidelines for surface preparation, air temperature, and material storage.
- Observe standard system details in drawings & demonstrations.
**SEMINAR AGENDA**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 a.m. - 8:00 a.m.</td>
<td>Registration and Continental Breakfast - Visit Tabletop Displays &amp; Network</td>
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<tr>
<td>8:00 a.m. - 8:20 a.m.</td>
<td>Welcome and Opening Remarks by MAC-RCI President with Tabletop Introductions and Discussion</td>
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<tr>
<td>8:00 a.m. - 8:25 a.m.</td>
<td>Tom Gernetzke, RRC, RWC, REWC, RBEC to discuss RCI Institute, regions and chapters.</td>
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<tr>
<td>8:25 a.m. - 8:30 a.m.</td>
<td>David Dixon, CSI, RRC, RRO, CCCA, CCPR to discuss CSI Institute, regions and Kansas City Chapter.</td>
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| 8:30 a.m. - 9:30 a.m. | Introduction to Below-Grade Waterproofing  
                       | Justin Henshell, FASTM, FAIA, RA, CSI |
| 9:30 a.m. - 9:45 a.m. | Break |
| 9:45 a.m. - 10:45 a.m. | Designing Plaza Waterproofing Systems  
                            | Paul Buccellato, FASTM, RA, RWC, CSI |
| 10:45 a.m. - 11:00 a.m. | Break |
| 11:00 a.m. - Noon. | Case Study: CUNA Mutual Group Waterproofing Rehabilitation  
                     | Thomas M. Gernetzke, RRC, RWC, REWC, RBEC |
| Noon – 1 p.m. | Lunch - Visit Tabletop Displays & Network |
| 1:00 p.m. - 2:30 p.m. | Specifying & Detailing Below-Grade and Plaza Waterproofing  
                         | (Waterproofing Question and Answer session – bring/submit drawings, sketches and problem photos)  
                         | Justin Henshell, FASTM, FAIA, RA, CSI  
                         | Paul Buccellato, FASTM, RA, RWC, CSI |
| 2:30 p.m. – 2:45 p.m. | Break |
| 2:45 p.m. – 4:15 p.m. | PMMA: Cold Fluid-Applied Systems for the Building Envelope – Demonstration and Hands-on  
                           | Ryan Schultz, CSI |
| 4:15 p.m. - 4:20 p.m. | Conclusion and Closing Remarks by MAC-RCI President |
| 4:20 p.m. - 4:30 p.m. | Break |
| 4:40 p.m. – 5:10 p.m. | Mid-America Chapter-RCI meeting under separate agenda. |

**REGISTRATION INFORMATION**

Pre-registration online is available through April 3rd for the Program is $125 members; $150 non-members; Students $25.00, late registration after April 3rd is an additional $25.00. Limited tabletop reservations are available, contact David Dixon at 913.544.8689. Although prior payment is preferred, onsite registration is available. RCI and AIA education credits will be provided to qualified registrants. A light breakfast, lunch and snacks are included in the registration fee. Each registrant is responsible for his/her hotel and travel arrangements. If you have specific meeting questions, contact David Dixon, Education Chair at 913.544.8689.

**REGISTER ONLINE TODAY AT** [WWW.RCIMAC.ORG](http://WWW.RCIMAC.ORG)